

## CLAIMS

I claim:

1. A Flare-Up Resistant Front Loading Roasting System comprising:

a roasting enclosure having a back and a pair of sides, said roasting enclosure having a door for facilitating access to an interior portion of said roasting enclosure, said roasting enclosure having a pair of apertures, each one of said apertures extending through an associated one of said sides;

a rotating means operationally coupled to said roasting enclosure;

a shaft member removeably engageable by said rotating means, said shaft member having a proximal end and a distal end, said proximal end being engageable with said rotating means, said shaft member being positionable substantially within said roasting enclosure, said proximal end extending outwardly through a first one of said apertures, said distal end extending outwardly from a second one of said pair of apertures; and

a heating means positioned within said roasting enclosure.

2. The system of claim 1, wherein said roasting enclosure further comprises:

an interior wall and an exterior wall, said interior wall having a spaced parallel relationship with said exterior wall, said interior wall being operationally coupled to said exterior wall, said interior and exterior walls defining a wall interior space;

an insulating material positioned within and substantially filling said wall interior space, said insulating material inhibiting

radiated heat transfer between an interior of said roasting enclosure and an external surface of said exterior wall.

3. The system of claim 1, wherein said roasting enclosure further comprises:

- a bottom wall providing a base for said roasting enclosure, said bottom wall having a back edge, a front edge, and a pair of side edges;

- a back wall operationally coupled to said bottom wall adjacent to said back edge of said bottom wall;

- a front wall operationally coupled to said bottom wall adjacent to said front edge of said bottom wall, said front wall having a height less than a height of said back wall;

- a pair of side walls, each one of said pair of side walls being operationally coupled to said bottom wall adjacent to an associated one of said side edges of said bottom wall, each one of said side walls tapering from top of said back wall to a top of said front wall; and

- said door being pivotally coupled to said back wall, said door being for selectively opening and closing said roasting enclosure.

4. The system of claim 3, wherein said door further comprises:

- a top wall pivotally coupled to said back wall, said top wall having a width approximately equal to a width of said bottom wall;

- a door front wall coupled to said top wall, said door front wall extending from said top wall to a top edge of said front wall when said door is in a closed position;

- a pair of door side walls operationally coupled to said top wall, each one of said pair of door side walls being positioned

adjacent an associated side of said top wall, said pair of door side walls tapering from said top wall to a bottom edge of said door front wall;

said door being shaped such that said roasting enclosure has a rectangular cross-section when said door is in a closed position.

5. The system of claim 1, wherein said rotating means further comprises:

a motor assembly operationally coupled to said roasting enclosure, said motor assembly being positioned adjacent to a side of said roasting enclosure; and

a shaft receiving assembly positioned adjacent to one of said pair of apertures.

6. The system of claim 5, further comprising:

an electric motor operationally coupled to said roasting enclosure, said electric motor having a rotating shaft extending therefrom;

a drive member couplable to said rotating shaft, said drive member facilitating transfer of rotational energy from said rotating shaft to said shaft receiving assembly;

a switch member for selectively applying and interrupting electrical power to said electric motor whereby said electric motor may be turned on and off.

7. The system of claim 6, wherein said shaft receiving assembly further comprises:

a rotating member for engaging said drive member such that rotation of said rotating shaft moves said drive member which in-turn rotates said rotating member;

a pair of collar guides, each one of said collar guides positioned adjacent to an associated one of said apertures, each one of said collar guides facilitating positioned of said shaft member such that said shaft member is rotatable by said rotating member;

a first pair of carrier bearing positioned adjacent to a first one of said apertures for facilitating support and rotation of said shaft member; and

a second pair of carrier bearing positioned adjacent to a second one of said apertures for facilitating support and rotation of said shaft member.

8. The system of claim 1, wherein said heating means further comprises:

at least one burner positioned in a lower portion of said roasting enclosure;

a gas supply line having a first and second end, said first end being operationally coupled to said burner, said second end extending through a wall of said roasting enclosure to an exterior environment, said second end being couplable to a gas supply.

9. The system of claim 8, wherein said heating means further comprises:

a thermostat operationally coupled to said gas supply line for controlling a temperature internal to said roasting enclosure;

at least one pilot safety control such that flow of gas through said gas supply line is interrupted if a pilot light is extinguished.

10: The system of claim 1, further comprising a linear actuator assembly operationally coupled to a side of said roasting enclosure and said door, said linear actuator assembly facilitating opening and closing of said door.

11. The system of claim 10, wherein said linear actuator assembly further comprises:

- a first coupling member operationally coupled to said door;
- a second coupling member operationally coupled to a side of said roasting enclosure;
- a jacking screw threaded through said first and second coupling members such that rotating said jacking screw in a first direction opens said door and rotating said jacking screw in a second direction closes said door;
- a linear actuator drive motor operationally coupled to said jacking screw, said linear actuator drive motor converting electrical energy into rotational energy; and
- an actuator control switch operationally coupled to said linear actuator drive motor for controlling rotating and direction of rotation of said linear actuator drive motor.

12. The system of claim 1, further comprising a plurality of wheels coupled to an exterior surface of said bottom wall, said plurality of wheels facilitating moving said system.

13. The system of claim 1, further comprising a poultry assembly couplable to said shaft member, said poultry assembly being adapted for engaging a plurality of fowl for facilitating rotisserie roasting.

14. The system of claim 13, wherein said poultry assembly further comprises:

a plurality of spacing members couplable to said shaft member;

a plurality of secondary shaft members positionable between said spacing members; and

a plurality of fowl engagement members slideably engageable with said secondary shafts, each one of said fowl engagement members having at least one prong for insertion into the fowl for securing the fowl to said poultry assembly.

15. The system of claim 1, further comprising a drip pan removeably positionable within said roasting enclosure between said shaft member and said heating means, said drip pan being for collecting grease produced during roasting.

16. The system of claim 1, further comprising an exhaust port extending through a wall of said roasting enclosure, said exhaust port facilitating ventilation of an interior of said roasting enclosure.

17. A Flare-Up Resistant Front Loading Roasting System comprising:

a roasting enclosure having a back and a pair of sides, said roasting enclosure having a door for facilitating access to an interior portion of said roasting enclosure, said roasting enclosure having a pair of apertures, each one of said apertures extending through an associated one of said sides;

a rotating means operationally coupled to said roasting enclosure;

a shaft member removeably engageable by said rotating means, said shaft member having a proximal end and a distal end, said proximal end being engageable with said rotating means, said shaft member being positionable substantially within said roasting enclosure, said proximal end extending outwardly through a first one of said apertures, said distal end extending outwardly from a second one of said pair of apertures; a heating means positioned within said roasting enclosure;

wherein said roasting enclosure further comprises:

an interior wall and an exterior wall, said interior wall having a spaced parallel relationship with said exterior wall, said interior wall being operationally coupled to said exterior wall, said interior and exterior walls defining a wall interior space;

an insulating material positioned within and substantially filling said wall interior space, said insulating material inhibiting radiated heat transfer between an interior of said roasting enclosure and an external surface of said exterior wall;

a bottom wall providing a base for said roasting enclosure, said bottom wall having a back edge, a front edge, and a pair of side edges;

a back wall operationally coupled to said bottom wall adjacent to said back edge of said bottom wall;

a front wall operationally coupled to said bottom wall adjacent to said front edge of said bottom wall, said front wall having a height less than a height of said back wall;

a pair of side walls, each one of said pair of side walls being operationally coupled to said bottom wall adjacent to an

associated one of said side edges of said bottom wall,  
each one of said side walls tapering from top of said  
back wall to a top of said front wall;  
said door being pivotally coupled to said back wall, said door  
being for selectively opening and closing said roasting  
enclosure;  
said back, front, and side walls and said door each having an  
interior wall and an exterior wall with insulating  
material positioned therebetween;  
wherein said door further comprises:  
a top wall pivotally coupled to said back wall, said top wall  
having a width approximately equal to a width of said  
bottom wall;  
a door front wall coupled to said top wall, said door front  
wall extending from said top wall to a top edge of said  
front wall when said door is in a closed position;  
a pair of door side walls operationally coupled to said top  
wall, each one of said pair of door side walls being  
positioned adjacent an associated side of said top wall,  
said pair of door side walls tapering from said top wall  
to a bottom edge of said door front wall;  
said door being shaped such that said roasting enclosure has a  
rectangular cross-section when said door is in a closed  
position;  
an electric motor operationally coupled to said roasting  
enclosure, said electric motor having a rotating shaft extending  
therefrom;  
a drive member couplable to said rotating shaft, said drive  
member facilitating transfer of rotational energy from said rotating  
shaft to said shaft receiving assembly;



a switch member for selectively applying and interrupting electrical power to said electric motor whereby said electric motor may be turned on and off;

wherein said shaft receiving assembly further comprises:

a rotating member for engaging said drive member such that rotation of said rotating shaft moves said drive member which in-turn rotates said rotating member;

a pair of collar guides, each one of said collar guides positioned adjacent to an associated one of said apertures, each one of said collar guides facilitating positioning of said shaft member such that said shaft member is rotatable by said rotating member;

a first pair of carrier bearing positioned adjacent to a first one of said apertures for facilitating support and rotation of said shaft member; and

a second pair of carrier bearing positioned adjacent to a second one of said apertures for facilitating support and rotation of said shaft member;

wherein said heating means further comprises:

at least one burner positioned in a lower portion of said roasting enclosure;

a gas supply line having a first and second end, said first end being operationally coupled to said burner, said second end extending through a wall of said roasting enclosure to an exterior environment, said second end being couplable to a gas supply;

a thermostat operationally coupled to said gas supply line for controlling a temperature internal to said roasting enclosure;

at least one pilot safety control such that flow of gas through said gas supply line is interrupted if a pilot light is extinguished;

a linear actuator assembly operationally coupled to a side of said roasting enclosure and said door, said linear actuator assembly facilitating opening and closing of said door;

wherein said linear actuator assembly further comprises:

a first coupling member operationally coupled to said door;

a second coupling member operationally coupled to a side of said roasting enclosure;

a jacking screw threaded through said first and second coupling members such that rotating said jacking screw in a first direction opens said door and rotating said jacking screw in a second direction closes said door;

a linear actuator drive motor operationally coupled to said jacking screw, said linear actuator drive motor converting electrical energy into rotational energy; and  
an actuator control switch operationally coupled to said linear actuator drive motor for controlling rotating and direction of rotation of said linear actuator drive motor;

a plurality of wheels coupled to an exterior surface of said bottom wall, said plurality of wheels facilitating moving said system;

a poultry assembly couplable to said shaft member, said poultry assembly being adapted for engaging a plurality of fowl for facilitating rotisserie roasting;

wherein said poultry assembly further comprises:

a plurality of spacing members couplable to said shaft member;

a plurality of secondary shaft members positionable between  
said spacing members;

a plurality of fowl engagement members slideably engageable  
with said secondary shafts, each one of said fowl  
engagement members having at least one prong for  
insertion into the fowl for securing the fowl to said  
poultry assembly;

a drip pan removeably positionable within said roasting  
enclosure between said shaft member and said heating means, said  
drip pan being for collecting grease produced during roasting; and  
an exhaust port extending through a wall of said roasting  
enclosure, said exhaust port facilitating ventilation of an interior of  
said roasting enclosure.

18. The system of claim 17, further comprising a heat shield  
positioned between said roasting enclosure and said linear actuator  
assembly for providing thermal protection to said linear actuator  
assembly during roasting.